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NAVAJO NATION
WATER QUALITY STANDARDS

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TABLE OF CONTENTS**PART I****SURFACE WATER QUALITY STANDARDS - GENERAL PROVISIONS**

§ 101	TITLE	1
§ 102	AUTHORITY	1
§ 103	PURPOSE..	1
§ 104	DEFINITIONS..	1
§ 105	SEVERABILITY..	6

PART II**SURFACE WATER QUALITY STANDARDS**

§ 201	ANTIDegradation Policy..	6
§ 202	IMPLEMENTATION PLAN	7
§ 203	NARRATIVE SURFACE WATER QUALITY STANDARDS..	9
§ 204	DESIGNATED USE CLASSIFICATION SYSTEM FOR NAVAJO NATION SURFACE WATERS..	10
§ 205	ADDITIONAL HUMAN HEALTH CRITERIA	11
§ 206	NUMERIC SURFACE WATER QUALITY STANDARDS..	12
§ 207	SAMPLE COLLECTION AND ANALYSIS..	12
§ 208	VARIANCES..	12
§ 209	WASTEWATER MIXING ZONES	14
§ 210	BIOLOGICAL STANDARDS (RESERVED)..	15

TABLES

204.1	Designated Uses for Navajo Nation Surface Waters	17
206A. 1	Human Health and Agricultural Numeric Surface Water Quality Standards for Bacteria and Physical Parameters	24
206A.2	Human Health and Agricultural Numeric Surface Water Quality Standards for Inorganics, Asbestos, and Radiological Constituents	24
206A.3	Human Health and Agricultural Numeric Surface Water Quality Standards for Metals	25
206A.4	Human Health and Agricultural Numeric Surface Water Quality Standards for Organic Compounds	26
206B. 1	Aquatic, Wildlife, and Livestock Numeric Surface Water Quality Standards for Bacteria and Physical Parameters	28
206B.2	Aquatic, Wildlife, and Livestock Numeric Surface Water Quality Standards for Inorganics, Asbestos, and Radiological Constituents	28
206B.3	Maximum Total Ammonia Concentration Acute Standard for Cold Water Habitat	29
206B.4	Maximum Total Ammonia Concentration Acute Standard for Warm Water Habitat and Ephemeral Warm Water Habitat	30
206B.5	Aquatic, Wildlife, and Livestock Numeric Surface Water Quality Standards for Metals	32
206B.6	Aquatic, Wildlife, and Livestock Numeric Surface Water Quality Standards for Organic Compounds	33

FOOTNOTES

Footnotes to the Numeric Surface Water Quality Standards	37
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PART I
SURFACE WATER QUALITY STANDARDS - GENERAL PROVISIONS

§ 101 TITLE

These regulations may be cited as the Navajo Nation Surface Water Quality Standards (NNSWQS).

§ 102 AUTHORITY

These regulations are adopted pursuant to §104(b) and §201 of the Navajo Nation Clean Water Act (NNCWA), C.J.Y.-81-99; they establish surface water quality standards applicable to the surface waters of the Navajo Nation pursuant to §303 and §518 of the Federal Clean Water Act.

§ 103 PURPOSE

- A. The purpose of these water quality standards is to protect, maintain, and improve the quality of Navajo Nation surface waters for public and private drinking water supplies; to promote the habitation, growth, and propagation of native and other desirable aquatic plant and **animal** life; to protect existing, and future, domestic, cultural, **agricultural**, recreational and industrial uses; and to protect any other existing and future beneficial uses of Navajo Nation surface waters. These standards provide the water quality goals for each body of surface water within the Navajo Nation and provide the basis for establishing treatment controls and strategies through regulation.
- B. These standards apply to **all** Waters of the Navajo Nation.

§104 DEFINITIONS

- (A) "Acute Standard" means a standard that applies to any single sample; acute standards shall not be exceeded at any time.
- (B) "Acute Toxicity" means toxicity involving a stimulus severe enough to induce a deleterious response (e.g., mortality, disorientation, immobilization) in 96 hours of exposure or less.
- (C) "Agricultural Water Supply" means the use of the water for the irrigation of crops that could be used for human consumption.
- (D) "Best Management Practices" or "BMPs" means methods, measures or practices selected by an agency to meet its **nonpoint source** pollution control needs, or, in the case of the National

Pollutant Discharge Elimination System, schedules of activities, prohibitions of practices, maintenance procedures and other management practices to prevent or reduce the pollution of waters of the Navajo Nation **BMPs** include, but are not limited to, structural and non-structural controls, treatment requirements, operation and maintenance procedures and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage **from** raw material storage, and can be applied before, during, or **after** pollution-producing activities to reduce or eliminate the introduction of pollutants into Waters of the Navajo Nation.

- (E) **"Bioaccumulation"** means the process of a chemical accumulating in a biological food **chain** by being passed **from** one organism to another as the contaminated organism is preyed upon by another organism
- (F) **"Bioconcentration"** means the process by which there is a net accumulation of a chemical directly **from** water into aquatic organisms resulting from simultaneous uptake and elimination.
- (G) **"Chronic Standard"** means a standard that applies to the arithmetic mean of samples collected during four consecutive days; chronic standards shall not be exceeded more than once every three years.
- (H) **"Chronic Toxicity"** means toxicity involving a stimulus that lingers or continues for a relatively long period relative to the **life** span of an organism before effects are observed (e.g., 28 days for small fish test species). Chronic effects include, but are not limited to, lethality, growth impairment, behavioral **modifications**, disease and reduced or impaired reproduction.
- (I) **"Clean Water Act"** means the Federal Water Pollution Control Act of 1972, as amended, 33 U.S.C., § 1251 *et seq.*
- (J) **"Cold Water Habitat"** means the use of the water by animals, plants or other organisms, including salmonids, for habitation, growth or propagation Water body supports or is capable of supporting cold water fishes, including trout species, and the aquatic community upon which they depend. Fish recovered **from** waters designated as cold water habitats shall be fit for human consumption. Cold waters are waters that typically have temperatures below 20 °C.
- (K) **"Consumption of Organisms Only"** means human health criteria applicable to all surface waters containing aquatic organisms used for human ingestion.
- (L) **"Consumption of Water and Organisms"** means human health criteria applicable to all surface waters used as a domestic water supply. In the event a compound has numeric

surface water quality standards for both Domestic Water Supply designated use *and* Consumption of Water and Organisms, the more stringent of the two numerical standards shall apply.

- (M) “Criteria” means elements of water quality standards that are expressed as pollutant concentrations, levels or narrative statements representing a water quality that supports a designated use. When criteria are met, water quality should protect the designated use.
- (N) “Designated Use” means a use described in §204 and specified in Table 204.1 of these standards for a surface water body or surface water body segment of the Navajo Nation.
- (O) “Director” means the Executive Director of the Navajo Nation Environmental Protection Agency.
- (P) “Dissolved” means the concentration of a constituent in a water sample that is analytically determined following filtration using a 0.45 micron filter.
- (Q) “Domestic Water Supply” means the use of the water as a potable water supply.
- (R) “Ephemeral Warm Water Habitat” means the use of an ephemeral warm water by animals, plants or other organisms, **excluding** fish, for habitation, growth or propagation.
- (S) “Ephemeral Water” means a water that has a channel that is at all times above the water table, that flows only in **direct** response to precipitation, and that does not support a self-sustaining **fish** population.
- (T) “Hardness” means the sum of the calcium and magnesium concentrations, expressed as calcium carbonate (CaCO_3), in milligrams per liter.
- (U) “Intermittent Stream” means a watercourse that flows only at certain times of the year, receiving water **from** springs or surface sources; also, a watercourse that does not flow continuously, when water losses **from** evaporation or seepage exceed available stream flow.
- (V) “Livestock and Wildlife Watering (L&W)” means water used by livestock and/or by **non-**domestic animals (including migratory birds) for consumption (ingestion), habitation, growth and/or propagation.
- (W) “Micrograms per Liter ($\mu\text{g/l}$)” means micrograms of solute per liter of solution (equivalent to parts per billion when the specific gravity of the solution = 1 .000).
- (X) “Milligrams per Liter (mg/l)” means milligrams of solute per liter of solution (equivalent to parts per million when the **specific** gravity of the solution = 1 .000).

- (Y) "Nonpoint Source" means any source of water pollution that is not a point source, as **defined** herein.
- (Z) "NTU" is a nephelometric turbidity unit based on a standard method using **formazin** polymer or its equivalent as the standard reference suspension. Nephelometric turbidity measurements expressed in units of NTU are numerically identical to the same measurements expressed in units of FTU (**formazin** turbidity units).
- (AA) "Oil" means oil of any kind or in any form, including but not limited to petroleum, crude oil, gasoline, fuel oil, diesel oil, lubricating oil, oil refuse, sludge, and oil mixed with wastes.
- (BB) "Picocurie (**pCi**)" is a measure of radioactivity equal to the quantity of a radioactive substance in which the rate of disintegrations is 2.22 per minute. Expressed in picocuries per liter (**pCi/l**).
- (CC) "Point Source" means any discernible, confined, and discrete conveyance including but not limited to any pipe, ditch, channel, **tunnel**, conduit, **well**, discrete fissure, **landfill leachate** collection system, container, rolling stock (except to the extent excluded **from** the NPDES program by section 601 of the National and Community Services Act of 1990, P.L. 101-610, 104 Stat. 3 **185**), concentrated animal **feeding** operation, or vessel or other floating **craft**, from which pollutants are or may be discharged into a body of water. This term does not include agricultural storm water discharges or return flows **from** irrigated agriculture.
- (DD) "Pollution" means any man-made or man-induced alteration of the chemical, physical, biological, or radiological integrity of waters of the Navajo Nation.
- (EE) "Primary Human Contact " means the use of the water that causes the human body to come into direct contact with the water, typically to the point of submergence in the water body, or probable ingestion of the water, or contact by the **water** with membrane material of the body. Examples include ceremonial uses, **swimming** and water-skiing.
- (FF) "Recreational Uses" are the Primary Human Contact and Secondary Human Contact designated uses.
- (GG) "Regional Administrator" means the Regional Administrator of Region 9 of the U.S. Environmental Protection Agency.
- (HH) "Secondary Human Contact" means the use of water which may **cause** the **water** to come into direct contact with the skin of the body but normally not to the point of submergence, ingestion of the water, or contact of the water with membrane material of the body. Such contact would occur only incidentally. Examples include ceremonial and other cultural uses, boating and fishing.

- (II) "TDS" means total dissolved solids, also termed "total filterable residue."
- (JJ) "Total Concentration" means the concentration of a constituent in a water sample which is analytically determined without titration through a 0.45 micron filter.
- (KK) "Total Nitrogen" means the sum of the concentrations of ammonia (NH₃), ammonium ion (NH₄⁺), nitrite (NO₂⁻), nitrate (NO₃⁻) and dissolved and particulate organic nitrogen in a water sample, expressed as elemental nitrogen (N).
- (LL) "Total Phosphorus" means all the phosphorus species present in a water sample, regardless of form, as measured by a **persulfate** digestion procedure.
- (MM) "Toxic Pollutant" means a pollutant, or combination of pollutants, **including disease-causing** agents, which **after** discharge and upon exposure, ingestion, inhalation or assimilation into any organism, either directly from the environment or indirectly by ingestion through food chains, will, on the basis of information available to the Administrator, cause death, disease, behavioral abnormalities, cancer, genetic mutations, physiological **malfunctions** (including **malfunctions** in reproduction) or physical deformations, in such organisms or their **offspring**.
- (NN) "Turbidity" means the optical clarity of water that causes incident light to be scattered or absorbed rather than transmitted in straight lines.
- (OO) "Unique Waters" means ground or surface waters which have been determined to be of exceptional cultural, ecological and/or recreational significance due to the nature of their flora, fauna, water quality, aesthetic value, or wilderness **characteristics**.
- (PP) "Warm Water Habitat (**WwHbt**)" means the use of water by animals, plants or other organisms, excluding salmonids, for habitation, growth or propagation. Warm water bodies support or are capable of supporting warm water fishes, including bass species, catfish species, and bluegill species, and the aquatic community upon which they depend. Fish recovered **from** waters **designated** as warm water habitats shall be fit for human consumption. Warm waters are waters that typically have temperatures exceeding 20 °C.
- (QQ) "Wastewater **Mixing Zone**" means a **defined** and limited part of a surface water body, with **defined** boundaries adjacent to a point source of pollution, in which initial dilution of wastewater occurs.
- (RR) "Waters of the Navajo Nation" means all **surface** waters including, but not limited to, portions of rivers, streams (including perennial, intermittent and ephemeral streams and their tributaries), lakes, ponds, dry washes, marshes, waterways, wetlands, **mudflats**, sandflats, sloughs, prairie potholes, wet meadows, **playa** lakes, impoundments, riparian areas, springs,

and **all** other bodies or accumulations of water, **surface**, natural or **artificial**, public or private, including those dry during part of the year, which are within or border the Navajo Nation. This **definition** shall be interpreted as broadly as possible to include all waters which are currently used, were used in the past, or may be susceptible to use in interstate, **intertribal** or foreign commerce. Consistent with federal requirements, the Director may exclude **from** waters of the Navajo Nation certain waste treatment systems.

- (SS) “Wetlands” means those areas that are inundated or saturated by surface or groundwater at a **frequency** and duration **sufficient** to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.
- (TT) “Zone of passage” means a continuous water route of volume, cross-sectional area and quality necessary to allow passage of **free-swimming** or **drifting** organisms with no toxic effect produced on the organisms.

§ 105 SEVERABILITY

If any provision of these regulations or the application thereof to any person or circumstance is held invalid, the remainder of these regulations and the application of such provision to other persons or circumstances shall remain **unaffected**, and to this end the provisions of these regulations are declared to be severable.

PART II SURFACE WATER QUALITY STANDARDS

§ 201 ANTIDEGRADATION POLICY

- A. The following antidegradation policy is promulgated under § 201(a) of the Navajo Nation Clean Water Act (C.J.Y.-81-99).
1. Existing **instream** water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected.
 2. Where the quality of any water body is of a higher quality than is necessary to support existing uses, including but not limited to the protection and propagation of fish, **shellfish**, and wildlife and recreation in and on the water body, that quality shall be maintained and protected unless the Navajo Nation **finds, after** full interagency coordination and public participation, that allowing lower water quality is necessary to accommodate important economic or social development in the area in which the water body is located. In allowing such degradation or lower water quality, the

Navajo Nation shall assure water quality adequate to protect existing uses fully.

3. The Navajo Nation shall assure that there shall be achieved the highest statutory and regulatory requirements for all new and existing point sources and a cost effective and reasonable best management practices for **nonpoint** source pollution control.
4. Where high quality waters or Unique Waters constitute an outstanding resource of the Navajo Nation, such as waters of National parks and monuments, Tribal parks and wildlife refuges, and other waters of exceptional recreational, cultural or ecological **significance**, that water quality shall be maintained and protected.
5. This policy of antidegradation includes protection against water quality impairment associated with thermal discharges and shall **be** implemented consistent with §3 16 of the Federal Clean Water Act (33 U.S.C. §1326).

§202 IMPLEMENTATION PLAN

- A. The Navajo Nation Water Quality Program (NNWQP) within the Navajo Nation Environmental Protection Agency (**NNEPA**), pursuant to the Navajo Nation Clean Water Act (**NNCWA**), shall implement these water quality standards, including the antidegradation policy, by establishing and maintaining controls on the introduction of pollutants into **waters** of the Navajo Nation. Specifically, NNWQP shall do the following:
 1. Develop a comprehensive database that **fully** identifies all waters of the Navajo Nation, their quality and designated uses, and any activities which may detrimentally impact those waters and uses.
 2. Monitor water quality to assess the effectiveness of pollution controls, and to determine whether designated uses are being supported and narrative and numeric water quality standards are being met.
 3. Obtain information as to the impact of effluent on receiving waters.
 4. Advise prospective dischargers of discharge requirements.
 5. Assess the probable impact of effluent on the capability of receiving waters to support designated uses and achieve narrative and numeric water quality standards.
 6. Require the highest degree of wastewater treatment practicable to maintain designated uses and existing water quality.

7. Develop water quality-based effluent limitations and provide comment on **technology-** based effluent limitations as appropriate for inclusion in any permit to be issued to a discharger pursuant to § 301 of the NNCWA, **C.J.Y.-81-99**, and § 402 **of the** Federal Clean Water Act (33 U.S.C. §1342).
8. Require that effluent limitations or any other appropriate limitations applicable to activities with the potential for discharge to waters of the Navajo Nation be included in any permit as a condition for Navajo Nation certification pursuant to §209 of the NNCWA, **C.J.Y.-81-99**, and §401 **of the** Federal Clean Water Act (33 U.S.C. §1341).
9. Coordinate water **pollution** control activities with other Navajo Nation, local, state, and federal agencies as appropriate.
10. Develop and pursue inspection and enforcement programs in order to ensure that dischargers comply with requirements of **the** NNCWA and any regulations promulgated thereunder (including these water quality standards), and in order to support the enforcement of federal permits issued by the U.S.EPA and permits issued by the NNEPA.
11. Provide technical assistance to wastewater treatment facility operators.
12. Assist publicly owned wastewater treatment facilities in the pursuit of wastewater treatment construction funds through construction grants authorized by the Federal Clean Water Act (33 U.S.C. §1281) and other federal funding available for **this** purpose.
13. Encourage, in conjunction with other agencies, voluntary implementation of **best** management practices (**BMPs**) to control **nonpoint** sources of **pollutants** in order to support designated uses and meet Navajo Nation narrative and numeric water quality standards.
14. Examine existing and future Navajo Nation policies **pertaining** to septic systems, solid waste **disposal**, range management practices, and any other relevant activities to ensure that these policies are **sufficient** to meet narrative and numeric water quality standards.
15. Require that sufficient **instream** flows be maintained to support designated uses and meet narrative and numeric water quality standards.
16. Require that **surface** and groundwater withdrawals do not cause degradation of unique surface or ground water bodies.

17. Conduct an antidegradation analysis for regulated actions that may potentially impair water quality.

§ 203 NARRATIVE SURFACE WATER QUALITY STANDARDS

- A. All Waters of the Navajo Nation shall be ~~free from~~ pollutants in amounts or combinations ~~that~~, for any duration:
 1. Cause injury to, are toxic to, or otherwise adversely affect human health, public safety, or public welfare.
 2. Cause injury to, are toxic to, or otherwise adversely affect the habitation, growth, or propagation of indigenous aquatic plant and animal communities or any member of these communities; of any desirable non-indigenous member of these communities; of waterfowl accessing the water body; or otherwise adversely affect the physical, chemical, or biological conditions on which these communities and their members depend.
 3. Settle to form bottom deposits, including sediments, precipitates and organic materials, that cause injury to, are toxic to, or otherwise adversely ~~affect~~ the habitation, growth or propagation of indigenous aquatic plant and ~~animal~~ communities or any member of these communities; of any desirable non-indigenous member of these ~~communi~~'ties; of waterfowl accessing the water body; or otherwise adversely affect the physical, chemical, or biological conditions on which these communities and their members depend.
 4. Cause physical, chemical, or biological conditions that promote the habitation, growth, or propagation of undesirable, non-indigenous species of plant or animal life in the water body.
 5. Cause solids, oil, grease, foam, scum, or any other form of objectionable floating debris on the surface of the water body; may cause a ~~film~~ or iridescent appearance on the surface of the water body; or that may cause a deposit on a shoreline, on a bank, or on aquatic vegetation.
 6. Cause objectionable odor in the area of the water body.
 7. Cause objectionable taste, odor, color, or turbidity in the water body.
 8. Cause objectionable taste in edible plant and animal ~~life~~, including waterfowl, that reside in, on, or adjacent to the water body.

§ 204 DESIGNATED USE CLASSIFICATION SYSTEM FOR NAVAJO NATION SURFACE WATERS

A. Designated Uses

The following are the designated uses for the surface waters of the Navajo Nation:

Dom	<u>Domestic Water Supply:</u> Water body supports use of the water as a potable water supply.
PrHC	<u>Primary Human Contact:</u> Water body supports the use of the water that causes the human body to come into direct contact with the water, typically to the point of submergence in the water body, or probable ingestion of the water, or contact by the water with membrane material of the body. Examples include ceremonial uses, swimming and water-skiing.
ScHC	<u>Secondary Human Contact:</u> Water body supports the use of water which may cause the water to come into direct contact with the skin of the body, but normally not to the point of submergence, ingestion of the water, or contact of the water with membrane material of the body. Such contact would occur only incidentally. Examples include ceremonial and other cultural uses, boating and fishing.
AgWS	<u>Agricultural Water Supply:</u> Water body supports the use of the water for the irrigation of crops which could be used for human consumption.
CwHbt	<u>Cold Water Habitat:</u> Water body supports the use of the water by animals, plants or other organisms, includiig salmonids , for habitation, growth or propagation. Water body supports or is capable of supporting cold water fishes , including trout species, and the aquatic community upon which they depend. Fish recovered from waters designated as cold water habitats shall be fit for human consumption. Cold waters are waters that typically have temperatures below 20 °C.
WwHbt	<u>Warm Water Habitat:</u> Water body supports the use of water by animals, plants or other organisms, excluding sahnnonids, for habitation, growth or propagation. Warm water bodies support or are capable of supporting warm water fishes, includiig bass species, catfish species, and bluegill species, and the aquatic community upon which they depend. Fish recovered from waters designated as warm water habitats shall be fit for human consumption. Warm waters are waters that typically have temperatures exceeding 20 °C.

EphWwHbt Ephemeral Warm Water Habitat: Water body supports the use of an ephemeral warm water by animals, plants or other organisms, excluding fish, for habitation, growth or propagation.

L&W Livestock and Wildlife Watering: Water body supports use by livestock and/or by non-domestic animals (**including** migratory birds) for consumption (ingestion), habitation, growth and/or propagation.

B. Designated Use **Modifications**

Modifications to Designated Uses, including removal of a use or establishing a use subcategory, may be made if the requirements of 40 CFR Section 13.1.10 are met.

C. Designated Use Table

Table 204.1 lists the uses for the currently designated surface waters of the Navajo Nation. Each surface water body is geographically listed according to the Hydrologic Unit Code system developed by the United States Geological Survey (USGS) and published in the USGS's "Water Supply Paper Number 2294". The name of the water body is followed by columns listing the Subregion (or Basin) and Cataloging Unit. A subregion includes the area drained by a river system a reach of a river and its tributaries in that reach. A cataloging unit is a geographic area representing part or all of a surface drainage basin, a combination of drainage basins, or a distinct hydrologic feature.

For the purposes of these designated uses, the water body **includes** all tributaries to the water body, and all ephemeral, perennial, and intermittent reaches of the listed water body and its tributaries unless otherwise **specified**.

\$205 ADDITIONAL HUMAN HEALTH CRITERIA

In addition to the Designated Uses in Section 204 and the Numeric Water Quality Standards in Section §206, the following Human Health criteria, where listed, shall also apply:

Consumption of Organisms Only : human health **criteria** applicable to all surface waters containing aquatic organisms used for human ingestion.

Consumption of Water and Organisms : human health criteria applicable to all surface waters used as a domestic water supply. In the event a compound has numeric surface water quality standards for both Domestic Water Supply designated use and Consumption of Water and Organisms, the more stringent of the two numerical standards shall apply.

§206 NUMERIC SURFACE WATER QUALITY STANDARDS

When a Water of the Navajo Nation has more than a single designated use, the applicable numeric standards shall be the most stringent of those established for that body of water.

- A. The numeric surface water quality standards for the Domestic Water Supply, Primary Human Contact, Secondary Human Contact, and Agricultural Water Supply Designated Uses may be found in Tables 206A.1, 206A.2, 206A.3, and 206A.4. Also contained within these tables' are the numeric standards for Consumption of Organisms Only and Consumption of Water and Organisms Human Health Criteria.
- B. The numeric surface water quality standards for the Cold Water Habitat, Warm Water Habitat, Ephemeral Warm Water Habitat, and Livestock and **Wildlife** Watering Designated Uses may be found in Tables 206B.1, 206B.2, 206B.3, 206B.4, 206B.5, and 206B.6.

§207 SAMPLE COLLECTION AND ANALYSIS

All sample collection methods used to obtain surface water and effluent samples shall be conducted according to the "Quality Assurance Project Plan, Assessment of Streams and Lakes of the Navajo Nation" and other applicable sample collection guidance documents approved by the Navajo Nation EPA Water Quality Program.

All analytical methods conducted to evaluate compliance with water quality standards and to support any revisions to those standards, including all field and laboratory **analyses** to determine chemical, physical or biological conditions of water on the Navajo Nation, shall be conducted in accordance with approved procedures published in 40 CFR § 136, "Guidelines Establishing Test Procedures for the Analysis of Pollutants" unless the Navajo Nation selects, by regulation, alternative test methods, including methods under review by EPA for inclusion in 40 CFR 136. Analytical test procedures referenced in and approved in 40 CFR § 136 include but are not limited to those published by the American Public Health Association (*Standard Methods for the Examination of Water and Wastewater, 17th edition or latest edition*); by the American Society of Testing **Materials**; by the U.S. Environmental Protection Agency (*Methods for Chemical Analysis of Water and Wastes* and others); and by the U.S. Geological Survey (Techniques of Water Resource Investigations of the U.S. Geological Survey publication series).

§208 VARIANCES

- A. The Director may grant a variance from a water quality standard for a point source discharge provided the discharger demonstrates that treatment more advanced than that required to comply with technology-based effluent limitations is necessary to comply with the water quality standard **and**:

1. It is not technically feasible to achieve compliance within the next three years; or
 2. The cost of the treatment would result in substantial and widespread economic and social impact.
- B. A variance may be granted only on a pollutant-specific basis. A point source discharge is required to comply with all other applicable water quality standards for which a variance is not granted.
- C. A variance applies only to a specific point source discharge. The granting of a variance does not modify a water quality standard. Other point source dischargers to the surface water shall comply with applicable water quality standards, **including** any **water** quality standard for which a variance has **been** granted for a **specific** point source discharge.
- D. A variance is for a **fixed** term not to exceed three **years**. Variances are not renewable but may be reissued upon adequate justification.
- E. The Director shall reevaluate a variance upon the issuance, **reissuance**, or **modification** of the National Pollutant Discharge Elimination System permit for the point source discharge.
- F. A person who seeks a variance **from** a water quality standard shall submit a letter to the Director requesting a variance. A request for a variance **shall** include the following information:
1. Identification of the **specific** pollutant and water quality standard for which a variance is sought;
 2. Identification of the receiving surface water;
 3. For an existing point source discharge, a detailed description of the existing discharge control technologies that are used to achieve compliance with applicable water quality standards. For a new point discharge, a detailed description of the proposed discharge control technologies that will be used to achieve compliance with applicable water quality standards;
 4. Documentation that the existing or proposed discharge control technologies will comply with applicable technology-based effluent limitations and that more advanced treatment technology is necessary to achieve compliance with the water quality standard for which a variance is sought;
 5. A detailed discussion of the reasons why compliance with the water quality standard cannot be achieved;

6. A detailed discussion of the discharge control technologies that are available for achieving compliance with the water quality standard for which a variance is sought;
 7. Documentation of one or both of the following:
 - a. That it is not technically feasible to install and operate any of the available discharge control technologies to achieve compliance with the water quality standard for which a variance is sought; or
 - b. That installation and operation of each of the available discharge technologies to achieve compliance with the water quality standard would result in substantial and widespread economic and social impact;
 8. Documentation that the point source discharger has reduced, to the maximum extent practicable, the discharge of the pollutant for which a variance is sought through implementation of pretreatment, source reduction, or waste **minimization** program;
 9. A detailed description of proposed interim discharge limitations that represent the highest level of treatment achievable by the point source discharge during the term of **the** variance. Interim discharge limitations shall not be less stringent than **technology**-based effluent limitations.
- G. In making a decision on whether to grant or deny the request for a variance, the Director **shall** consider the following factors: bioaccumulation, bioconcentration, predicted exposure on biota and the likelihood that resident biota will be adversely **affected**, the known or predicted safe exposure levels for the pollutant of concern and the likelihood of adverse human health effects.
- H. The Director shall issue public notice and shall provide an opportunity for a public hearing on whether the request for a variance should be granted or denied.
- I. The Director shall not grant a variance for a point source discharge to a Unique Water.
- J. A variance is subject to review and approval by the Regional Administrator.

§209 WASTEWATER MIXING ZONES

- A. A wastewater mixing zone is a defined and limited part of a **surface** water body with defined boundaries adjacent to a point source of pollution, in which initial dilution of wastewater occurs, and in which certain numeric water quality standards may apply. All mixing zones are subject to the following requirements:

1. Miig zones shall be limited to perennial streams, lakes and reservoirs;
 2. All mixing zones shall have **defined** boundaries, beyond which applicable water quality standards shall be met;
 3. In no instance shall narrative water quality standards described in §203 of this document be violated;
 4. In no instance shall the concentration of any toxic pollutant exceed the acute toxicity for aquatic numeric standard for the pollutant; the acute toxicity for aquatic life numeric standard for all toxic pollutants shall be met at the point of discharge;
 5. In perennial streams, a continuous zone of passage around a mixing zone shall be maintained in which all applicable water quality standards are met, and which provides for migration of aquatic life without exposure to pollutant concentrations that exceed chronic toxicity for aquatic life numeric standards. The zone of passage shall be at least 50% of the cross-sectional area of the stream; and
 6. In no instance shall mixing zones constitute more than 10% of the surface area of a lake or reservoir; boundaries of adjacent **mixing** zones in a lake or reservoir shall be no closer than the largest horizontal dimension of either mixing zone.
- D. The Navajo Nation shall consider the requirements in subsections 1 through 6 in determining whether to grant or deny a mixing zone.
- E. The water quality criteria in these regulations shall apply within a mixing zone unless **specific** alternative criteria have been approved by the Navajo Nation Environmental Protection Agency and concurred upon by the U.S. Environmental Protection Agency. Mixing zones shall not be granted in lieu of reasonable control measures to reduce point source pollutant discharges but will be granted to complement such control measures. A limited mixing zone, serving as a zone of initial dilution in the immediate area of a point source of pollution, may be allowed **if the** conditions set out in this part are met.

§210 BIOLOGICAL STANDARDS (RESERVED)

Table 204.1 Designated Uses for Navajo Nation Surface Waters

Surface Water Body	Basin	Cataloging Unit	Domestic Water Supply (Dom)	Primary Human Contact (PrHC)	Secondary Human Contact (ScHC)	Agricultural Water Supply (AgWS)	Cold Water Habitat (CwHbt)	Warm Water Habitat (WwHbt)	Ephemeral Warm Water Habitat (EphWwHbt)	Livestock and Wildlife Watering (L&W)
Tatahatso Wash, mouth to headwaters	Lower Colorado	Lower Colorado-Marble Canyon			ScHC				EphWwHbt	L&W
Shinumo Wash, mouth to headwaters	Lower Colorado	Lower Colorado-Marble Canyon			ScHC				EphWwHbt	L&W
Tiger Wash, mouth to headwaters	Lower Colorado	Lower Colorado-Marble Canyon			ScHC				EphWwHbt	L&W
Tanner Wash, mouth to headwaters	Lower Colorado	Lower Colorado-Marble Canyon			ScHC				EphWwHbt	L&W
Colorado River, mouth of Little Colorado River to mouth of Paria River	Lower Colorado	Lower Colorado-Marble Canyon	Dom	PrHC	ScHC		CwHbt			L&W
Colorado River mouth of Paria River to Glen Canyon Dam	Upper Colorado	Lower Lake Powell	Dom	PrHC	ScHC		CwHbt	WwHbt		L&W
Antelope Creek, Lake Powell shoreline at elevation 3720 feet to headwaters	Upper Colorado	Lower Lake Powell		PrHC	ScHC			WwHbt	EphWwHbt	L&W
Kaibito Creek, Lake Powell shoreline at elevation 3720 feet to headwaters	Upper Colorado	Lower Lake Powell		PrHC	ScHC			WwHbt	EphWwHbt	L&W
Navajo Creek Lake Powell shoreline at elevation 3720 feet to headwaters	Upper Colorado	Lower Lake Powell		PrHC	ScHC			WwHbt	EphWwHbt	L&W
Aztec Creek, Lake Powell shoreline at elevation 3720 feet to headwaters	Upper Colorado	Lower Lake Powell		PrHC	ScHC			WwHbt	EphWwHbt	L&W
Little Colorado River, mouth to origin of perennial flow (between mouth of Lee Canyon and USGS Gaging Station)	Little Colorado	Lower Little Colorado	Dom	PrHC	ScHC				EphWwHbt	L&W

Table 204.1 (continued) Designated Uses for Navajo Nation Surface Waters

Surface Water Body	Basin	Cataloging Unit	Domestic Water Supply (Dom)	Primary Human Contact (PrHC)	Secondary Human Contact (ScHC)	Agricultural Water Supply (AgWS)	Cold Water Habitat (CwHbt)	Warm Water Habitat (WwHbt)	Ephemeral Warm Water Habitat (EphWwHbt)	Livestock and Wildlife Watering (L&W)
Little Colorado River, origin of perennial flow to Navajo Nation boundary	Little Colorado	Lower Little Colorado	Dom	PrHC	ScHC				EphWwHbt	L&W
Lee Canyon, mouth to headwaters	Little Colorado	Lower Little Colorado			ScHC				EphWwHbt	L&W
Moenkopi Wash, mouth to headwaters	Little Colorado	Lower Little Colorado			ScHC	AgWS			EphWwHbt	L&W
Hamblin Wash, mouth to headwaters	Little Colorado	Lower Little Colorado			ScHC				EphWwHbt	L&W
Begashibito Wash, mouth to headwaters	Little Colorado	Lower Little Colorado			ScHC				EphWwHbt	L&W
Shonto Wash, mouth to headwaters	Little Colorado	Lower Little Colorado			ScHC				EphWwHbt	L&W
Tappan Wash, mouth to headwaters	Little Colorado	Lower Little Colorado			ScHC				EphWwHbt	L&W
Cedar Wash, mouth to headwaters	Little Colorado	Lower Little Colorado			ScHC				EphWwHbt	L&W
Deadman Wash, mouth to headwaters	Little Colorado	Lower Little Colorado			ScHC				EphWwHbt	L&W
Canyon Diablo, mouth to Navajo Nation boundary	Little Colorado	Canyon Diablo			ScHC				EphWwHbt	L&W
San Francisco Wash, mouth to Navajo Nation boundary	Little Colorado	Lower Little Colorado			ScHC				EphWwHbt	L&W
Padre Canyon, mouth to Navajo Nation boundary	Little Colorado	Lower Little Colorado			ScHC				EphWwHbt	L&W

Table 204.1 (continued) Designated Uses for Navajo Nation Surface Waters

Surface Water Body	Basin	Cataloging Unit	Domestic Water Supply (Dom)	Primary Human Contact (PrHC)	Secondary Human Contact (ScHC)	Agricultural Water Supply (AgWS)	Cold Water Habitat (CwHbt)	Warm Water Habitat (WwHbt)	Ephemeral Warm Water Habitat (EphWwHbt)	Livestock and Wildlife Watering (L&W)
Youngs Canyon, mouth to Navajo Nation boundary	Little Colorado	Lower Little Colorado			ScHC				EphWwHbt	L&W
Yellow Jacket Canyon, mouth to Navajo Nation boundary	Little Colorado	Lower Little Colorado			ScHC				EphWwHbt	L&W
Dinnebito Wash, within Navajo Nation boundary	Little Colorado	Dinnebito Wash			ScHC				EphWwHbt	L&W
East Fork Dinnebito Wash	Little Colorado	Dinnebito Wash			ScHC				EphWwHbt	L&W
Corn Creek Wash, mouth to the mouth of Polacca Wash	Little Colorado	Corn-Oraibi			ScHC				EphWwHbt	L&W
Omibi Wash, within Navajo Nation boundary	Little Colorado	Corn-Oraibi			ScHC				EphWwHbt	L&W
Polacca Wash, within Navajo Nation boundary	Little Colorado	Polacca Wash			ScHC				EphWwHbt	L&W
Jeddito Wash, within Navajo Nation boundary	Little Colorado	Jeddito Wash			ScHC				EphWwHbt	L&W
Cottonwood Wash, within Navajo Nation boundary	Little Colorado	Cottonwood Wash			ScHC				EphWwHbt	L&W
Leroux Wash, within Navajo Nation boundary	Little Colorado	Leroux Wash			ScHC				EphWwHbt	L&W
Puerco River, within Navajo Nation boundary	Little Colorado	Upper Puerco & Lower Puerco	Dom		ScHC				EphWwHbt	L&W
Black Creek, mouth to headwaters	Little Colorado	Upper Puerco		PrHC	ScHC				EphWwHbt	L&W

Table 204.1 (continued) Designated Uses for Navajo Nation Surface Waters

Surface Water Body	Basin	Cataloging Unit	Domestic Water Supply (Dom)	Primary Human Contact (PrHC)	Secondary Human Contact (ScHC)	Agricultural Water Supply (AgWS)	Cold Water Habitat (CwHbt)	Warm Water Habitat (WwHbt)	Ephemeral Warm water Habitat (EphWwHbt)	Livestock and Wildlife Watering (L&W)
Tohdildonih Wash, mouth to Asaayi Lake	Little Colorado	Upper Puerco			ScHC	AgWS		WwHbt	EphWwHbt	L&W
Asaayi Lake	Little Colorado	Upper Puerco		PrHC	ScHC	AgWS	CwHbt			L&W
Bowl Creek, Asaayi Lake to headwaters	Little Colorado	Upper Puerco		PrHC	ScHC	AgWS	CwHbt			L&W
Rio Pescado, within Navajo Nation boundary	Little Colorado	Zuni River		PrHC	ScHC	AgWS			EphWwHbt	L&W
San Juan River and perennial tributary drainages (except as listed below)	San Juan	Numerous	Dom	PrHC	ScHC	AgW	CwHbt			L&W
Nonperennial tributary drainages to the San Juan River (except as listed below)	San Juan	Numerous			ScHC				EphWwHbt	L&W
Nokai Canyon, shore of Lake Powell at elevation 3720 feet to headwaters	San Juan	Lower San Juan River			ScHC				EphWwHbt	L&W
Oljeto Wash, mouth to headwaters	San Juan	Lower San Juan River			ScHC				EphWwHbt	L&W
Gypsum Creek, mouth to headwaters	San Juan	Lower San Juan River			ScHC				EphWwHbt	L&W
Chaco River, mouth to mouth of Dead Man's Wash	San Juan	Chaco		PrHC	ScHC			WwHbt	EphWwHbt	L&W
Chaco River, mouth of Dead Man's Wash to Navajo Nation boundary	San Juan	Chaco			ScHC				EphWwHbt	L&W
Dead Man's Wash, mouth to headwaters	San Juan	Chaco			ScHC				EphWwHbt	L&W

Table 204.1 (continued) Designated Uses for Navajo Nation Surface Waters

Surface Water Body	Basin	Cataloging Unit	Domestic Water Supply (Dom)	Primary Human contact (PrHC)	Secondary Human Contact (ScHC)	Agricultural Water Supply (AgWS)	Cold Water Habitat (CwHbt)	Warm Water Habitat (WwHbt)	Ephemeral Warm water Habitat (EphWwHbt)	Livestock and Wildlife Watering (L&W)
Chinde Wash, mouth to headwaters	San Juan	Chaco			ScHC				EphWwHbt	L&W
Cottonwood Arroyo, mouth to headwaters	San Juan				ScHC				EphWwHbt	L&W
Sanostee Wash, mouth to Tocito	San Juan	Chaco			ScHC				EphWwHM	L&W
Sanostee Wash, perennial reaches, Tocito Wash to headwaters	San Juan	Chaco			ScHC	AgWS	CwHbt		EphWwHbt	L&W
Sanostee Wash, nonperennial reaches, Tocito Wash to headwaters	San Juan	Chaco			ScHC				EphWwHbt	L&W
Tocito Wash, mouth to headwaters	San Juan	Chaco			ScHC				EphWwHM	L&W
Brimhall Wash, mouth to Navajo Nation boundary	San Juan	Chaco			ScHC				EphWwHbt	L&W
Captain Tom Wash, perennial reaches, mouth to headwaters	San Juan	Chaco			ScHC				EphWwHbt	L&W
Captain Tom Wash, nonperennial reaches, mouth to headwaters	San Juan	Chaco			ScHC				EphWwHbt	L&W
Hunter Wash, mouth to Navajo Nation boundary	San Juan	Chaco			ScHC				EphWwHbt	L&W
Sheep Springs Wash, mouth to headwaters	San Juan	Chaco			ScHC				EphWwHbt	L&W
Coyote Wash, mouth to headwaters	San Juan	Chaco			ScHC				EphWwHbt	L&W
Indian Creek, within Navajo Nation boundary	San Juan				ScHC				EphWwHbt	L&W

Table 204.1 (continued) Designated Uses for Navajo Nation Surface Waters

Surface Water Body	Basin	Cataloging Unit	Domestic Water Supply (Dom)	Primary Human Contact (PrHC)	Secondary Human Contact (ScHC)	Agricultural Water Supply (AgWS)	Cold Water Habitat (CwHbt)	Warm Water Habitat (WwHbt)	Ephemeral Warm Water Habitat (EphWwHbt)	Livestock and Wildlife Watering (L&W)
De Na Zin Wash, mouth to Navajo Nation boundary	San Juan	Chaco			ScHC				EphWwHbt	L&W
Chinle Creek/Chinle Wash, mouth to mouth of Canyon de Chelly	San Juan	Chhde		PrHC	ScHC	AgWS			EphWwHbt	L&W
Many Farms Lake	San Juan	Chinle		PrHC	ScHC	AgWS		WwHbt		L&W
Walker Creek, perennial reaches, mouth to headwaters	San Juan	Chinle		PrHC	ScHC	AgWS	CwHbt	WwHbt		L&W
Walker Creek, nonperennial reaches, mouth to headwaters	San Juan	Chbde			ScHC				EphWwHbt	L&W
Laguna Creek, perennial reaches, mouth to headwaters	San Juan	Chinle		PrHC	ScHC	AgWS		WwHbt		L&W
Laguna Creek, nonperennial reaches, mouth to headwaters	San Juan	Chinle			ScHC				EphWwHbt	L&W
Tyende Creek, mouth to headwaters	San Juan	Chinle			ScHC				EphWwHbt	L&W
Lukachukai Wash, perennial reaches, mouth to headwaters	San Juan	Chbde	Dom	PrHC	ScHC	AgWS	CwHbt			L&W
Lukachukai Wash, nonperennial reaches, mouth to headwaters	San Juan	Chinle			ScHC				EphWwHbt	L&W
Black Mountain Wash, mouth to headwaters	San Juan	Chinle			ScHC				EphWwHbt	L&W
Nazlini Wash, perennial reaches, mouth to headwaters	San Juan	Chinle			ScHC	AgWS		WwHbt		L&W
Nazlini Wash, nonperennial reaches, mouth to headwaters	San Juan	Chinle			ScHC				EphWwHbt	L&W

Table 204.1 (continued) Designated Uses for Navajo Nation Surface Waters

Surface Water Body	Basin	Cataloging Unit	Domestic Water Supply (Dom)	Primary Human Contact (PrHC)	Secondary Human Contact (ScHC)	Agricultural Water Supply (AgWS)	Cold Water Habitat (CwHbt)	Warm Water Habitat (WwHbt)	Ephemeral Warm Water Habitat (EphWwHbt)	Livestock and Wildlife Watering (L&W)
Cottonwood Wash, mouth to headwaters	San Juan	Chinle			ScHC				EphWwHbt	L&W
Balakai wash, mouth to headwaters	San Juan	Chinle			ScHC				EphWwHbt	L&W
Canyon de Chelly Wash, mouth to mouth of Coyote Wash	San Juan	Chinle		PrHC	ScHC				EphWwHbt	L&W
Whiskey Creek, mouth of Coyote Wash to headwaters	San Juan	Chinle		PrHC	ScHC	AgWS	CwHbt			L&W
Wheatfields Lake	San Juan	Chinle		PrHC	ScHC	AgWS	CwHbt			L&W
Coyote Wash, mouth to headwaters	San Juan	Chinle			ScHC				EphWwHbt	L&W
Canyon del Muerto Wash, mouth of Canyon de Chelly to Tsaille Lake	San Juan	Chinle		PrHC	ScHC	AgWS			EphWwHbt	L&W
Tsaile Lake	San Juan	Chinle		PrHC	ScHC		CwHbt			L&W
Tsaile Creek, lake to headwaters	San Juan	Chinle		PrHC	ScHC	AgWS	CwHbt			L&W

Table 206A.1. Human Health and Agricultural Numeric Surface Water Quality Standards for Bacteria and Physical Parameters.

Parameter	Domestic Water Supply	Primary Human Contact	Secondary Human Contact
Fecal Coliform (single sample maximum, CFU)	200	200	400
Fecal Coliform (geometric mean, CFU)	100	100	200
Temperature, maximum (Celsius degrees)	NCNS	NCNS	NCNS
pH (standard units)	6.5 - 9.0	6.5 - 9.0	6.5 - 9.0
Turbidity, maximum (NTU) (a)	NCNS	50	50

Table 206A.2. Human Health and Agricultural Numeric Surface Water Quality Standards for Inorganics, Asbestos, and Radiological Constituents

Parameter	CAS Number	Designated Uses				Additional Human Health Criteria	
		Domestic Water Supply	Primary Human Contact	Secondary Human Contact	Agricultural Water Supply	Consumption of Water and Organisms	Consumption of Organisms Only
Ammonia	7664-41-7	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS
Boron (ug/L)	7440-42-8	NCNS	NCNS	NCNS	750 D	NCNS	NCNS
Chlorine (total residual, ug/L)	7782-50-5	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS
Cyanide (ug/L)	57-12-5	200 D	NCNS	NCNS	NCNS	100 D	220000 D
Nitrate (mg/L)		10	NCNS	NCNS	NCNS	NCNS	NCNS
Sulfides (ug/L)	18496-25-8	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS
Asbestos (fibers/L > 10 um)	1332-21-4	NCNS	NCNS	NCNS	NCNS	7000000	7000000
Gross Alpha (pCi/L)		15 T	NCNS	NCNS	NCNS	NCNS	NCNS
Radium 226 + 228 (pCi/L)		5 T	NCNS	NCNS	NCNS	NCNS	NCNS
Tritium (pCi/L)	10028-17-8	20000 T	NCNS	NCNS	NCNS	NCNS	NCNS

**Table 206A.3. Human Health and Agricultural Numeric
Surface Water Quality Standards for Metals.**

Parameter	CAS Number	Designated Uses				Additional Human Health Criteria	
		Domestic Water Supply (ug/L)	Primary Human Contact (ug/L)	Secondary Human Contact (ug/L)	Agricultural Water Supply (ug/L)	Consumption of Water and Organisms (ug/L)	Consumption of Organisms Only (ug/L)
Aluminum (Al)	7429-90-5	NCNS	NCNS	NCNS	5000 D	6 T	4300 T
Antimony (Sb)	7440-36-0	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS
Arsenic (As)	7440-38-2	50 D	NCNS	NCNS	100 D	9.2 T	73 T
Arsenic III (As III)	7440-38-2	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS
Barium (Ba)	7440-39-3	1000 D	NCNS	NCNS	NCNS	NCNS	NCNS
Beryllium (Be)	7440-41-7	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS
Cadmium (Cd)	7440-43-9	10 D	NCNS	NCNS	10 D	NCNS	NCNS
Chromium (Cr III + Cr VI)	7440-47-3	50 D	NCNS	NCNS	100 D	NCNS	NCNS
Chromium III (Cr III)	16065-83-1	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS
Chromium VI (Cr VI)	18540-29-9	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS
Cobalt (Co)	7440-48-4	NCNS	NCNS	NCNS	50 D	NCNS	NCNS
Copper (Cu)	7440-50-8	NCNS	NCNS	NCNS	200 D	NCNS	NCNS
Lead (Pb)	7439-97-1	50 D	NCNS	NCNS	5000 D	NCNS	NCNS
Mercury (Hg)	7439-97-6	2 D	NCNS	NCNS	NCNS	0.14 T	0.15 T
Molybdenum (Mo)	7439-98-7	NCNS	NCNS	NCNS	10 D	NCNS	NCNS
Nickel (Ni)	7440-02-0	NCNS	NCNS	NCNS	NCNS	610 T	4600 T
Selenium (Se)	7782-49-2	50 D	NCNS	NCNS	130 D	NCNS	NCNS
Selenium (in presence of >500 mg/l sulfate)	7782-49-2	NCNS	NCNS	NCNS	250 D	NCNS	NCNS
Silver (Ag)	7440-22-4	50 D	NCNS	NCNS	NCNS	NCNS	NCNS
Thallium (Tl)	7440-28-0	NCNS	NCNS	NCNS	NCNS	1.7 T	6.3 T
Uranium (Ur)	7440-61-1	35 D	NCNS	NCNS	NCNS	NCNS	NCNS
Vanadium (V)	7440-62-2	NCNS	NCNS	NCNS	100 D	NCNS	NCNS
Zinc (Zn)	7440-66-6	NCNS	NCNS	NCNS	2000 D	NCNS	NCNS

Table 206A.4. Human Health and Agricultural Numeric
Surface Water Quality Standards for Organic Compounds

Parameter	CAS Number	Designated Uses				Additional Human Health Criteria	
		Domestic Water Supply (ug/L)	Primary Human Contact (ug/L)	Secondary Human Contact (ug/L)	Agricultural Water Supply (ug/L)	Consumption of Water and Organisms (ug/L)	Consumption of Organisms Only (ug/L)
Acenaphthene	83-32-9	NCNS	NCNS	NCNS	NCNS	1200	2700
Acrolein	107-02-8	NCNS	NCNS	NCNS	NCNS	320	780
Acrylonitrile	107-13-1	NCNS	NCNS	NCNS	NCNS	0.059	0.66
Aldrin	309-00-2	NCNS	NCNS	NCNS	NCNS	0.00013	0.00014
Anthracene	120-12-7	NCNS	NCNS	NCNS	NCNS	9600	110000
alpha-BHC	319-84-6	NCNS	NCNS	NCNS	NCNS	0.0039	0.013
beta-BHC	319-85-7	NCNS	NCNS	NCNS	NCNS	0.014	0.046
delta-BHC	319-86-8	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS
gamma-BHC (Lindane)	58-89-9	NCNS	NCNS	NCNS	NCNS	0.019	0.063
Benzene	71-43-2	NCNS	NCNS	NCNS	NCNS	1.2	71
Benzidine	92-87-5	NCNS	NCNS	NCNS	NCNS	0.00012	0.00054
Benzo(a)anthracene	56-55-3	NCNS	NCNS	NCNS	NCNS	0.0028	0.031
Benzo(a)pyrene	50-32-8	NCNS	NCNS	NCNS	NCNS	0.0028	0.031
Benzo(b)fluoranthene	205-99-2	NCNS	NCNS	NCNS	NCNS	0.0028	0.031
Benzo(k)fluoranthene	207-08-9	NCNS	NCNS	NCNS	NCNS	0.0028	0.031
Bis(2-chloroethyl)ether	111-44-4	NCNS	NCNS	NCNS	NCNS	0.031	1.4
Bis(2-chloroisopropyl)ether	108-60-1	NCNS	NCNS	NCNS	NCNS	1400	170000
Bis(2-ethylhexyl)phthalate	117-81-7	NCNS	NCNS	NCNS	NCNS	1.8	5.9
Bromoform	75-25-2	NCNS	NCNS	NCNS	NCNS	4.3	360
4-Bromophenyl phenyl ether	101-55-3	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS
Butyl benzyl phthalate	85-68-7	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS
Carbon tetrachloride	56-23-5	NCNS	NCNS	NCNS	NCNS	0.25	4.4
Chlordane	57-74-9	NCNS	NCNS	NCNS	NCNS	0.00057	0.00059
Chlorobenzene	108-90-7	NCNS	NCNS	NCNS	NCNS	100	21000
Chlorodibromomethane	124-48-1	NCNS	NCNS	NCNS	NCNS	0.41	34
2-Chloroethyl vinyl ether	110-75-8	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS
Chloroform	67-66-3	NCNS	NCNS	NCNS	NCNS	5.7	470
2-Chloronaphthalene	91-58-7	NCNS	NCNS	NCNS	NCNS	1700	4300
2-Chlorophenol	95-57-8	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS
3-methyl 4-Chlorophenol	59-50-1	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS
Chrysene	218-01-9	NCNS	NCNS	NCNS	NCNS	0.0028	0.031
Dibenzo(a,h)anthracene	53-70-3	NCNS	NCNS	NCNS	NCNS	0.0028	0.031
p,p'-DDD (p,p-Dichlorodiphenyldichloroethane)	72-54-8	NCNS	NCNS	NCNS	NCNS	0.00083	0.00084
p,p'-DDE (p,p-Dichlorodiphenyldichloroethene)	72-55-9	NCNS	NCNS	NCNS	NCNS	0.00059	0.00059
p,p'-DDT (p,p-Dichlorodiphenyltrichloroethane)	50-29-3	NCNS	NCNS	NCNS	NCNS	0.00059	0.00059
1,2-Dichlorobenzene	95-50-1	NCNS	NCNS	NCNS	NCNS	600	17000
1,3-Dichlorobenzene	541-73-1	NCNS	NCNS	NCNS	NCNS	400	2600
1,4-Dichlorobenzene	106-46-1	NCNS	NCNS	NCNS	NCNS	75	2600
3,3'-Dichlorobenzidine	91-94-1	NCNS	NCNS	NCNS	NCNS	0.04	0.077
Dichlorobromomethane	75-27-4	NCNS	NCNS	NCNS	NCNS	0.27	22
1,2-Dichloroethane	107-06-2	NCNS	NCNS	NCNS	NCNS	0.38	99
1,1-Dichloroethene	75-35-4	NCNS	NCNS	NCNS	NCNS	0.057	3.2
1,2-trans-Dichloroethene	156-60-5	NCNS	NCNS	NCNS	NCNS	100	140000
2,4-Dichlorophenol	120-83-2	NCNS	NCNS	NCNS	NCNS	93	790
2,4-Dichlorophenoxyacetic acid (2,4-D)	94-75-7	70	NCNS	NCNS	NCNS	NCNS	NCNS
1,2-Dichloropropane	78-87-5	NCNS	NCNS	NCNS	NCNS	0.52	39
1,3-Dichloropropene	542-75-6	NCNS	NCNS	NCNS	NCNS	10	1700
Dieldrin	60-57-1	NCNS	NCNS	NCNS	NCNS	0.00014	0.00014
Dibutyl phthalate	84-74-2	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS
Diethyl phthalate	84-66-2	NCNS	NCNS	NCNS	NCNS	23000	120000

Table 206A.4 (continued). Human Health and Agricultural Numeric Surface Water Quality Standards for Organic Compounds

Parameter	CAS Number	Designated Uses				Additional Human Health Criteria	
		Domestic Water Supply (ug/L)	Primary Human Contact (ug/L)	Secondary Human Contact (ug/L)	Agricultural Water Supply (ug/L)	Consumption of Water and Organisms (ug/L)	Consumption of Organisms Only (ug/L)
Dimethyl phthalate	131-11-3	NCNS	NCNS	NCNS	NCNS	313000	2900000
2,4-Dimethyl phenol	105-67-9	NCNS	NCNS	NCNS	NCNS	540	2300
2,4-Dinitrophenol	51-28-5	NCNS	NCNS	NCNS	NCNS	70	14000
2-methyl-4,6-Dinitrophenol	534-52-1	NCNS	NCNS	NCNS	NCNS	13.4	765
2,4-Dinitrotoluene	606-20-2	NCNS	NCNS	NCNS	NCNS	0.11	9.1
1,2-Diphenylhydrazine	122-66-7	NCNS	NCNS	NCNS	NCNS	0.04	0.54
Di-butyl phthalate	84-74-2	NCNS	NCNS	NCNS	NCNS	2700	12000
Endosulfan sulfate	1031-07-8	NCNS	NCNS	NCNS	NCNS	0.3	2
alpha-Endosulfan	959-98-8	NCNS	NCNS	NCNS	NCNS	0.3	2
beta-Endosulfan	33213-65-9	NCNS	NCNS	NCNS	NCNS	0.3	2
Endrin	72-20-8	0.2	NCNS	NCNS	NCNS	0.76	0.81
Endrin aldehyde	7421-93-3	NCNS	NCNS	NCNS	NCNS	0.76	0.81
Ethylbenzene	100-41-4	NCNS	NCNS	NCNS	NCNS	700	29000
Fluoranthene	206-44-0	NCNS	NCNS	NCNS	NCNS	300	370
Fluorene	86-73-7	NCNS	NCNS	NCNS	NCNS	1300	14000
Heptachlor	76-44-8	NCNS	NCNS	NCNS	NCNS	0.00021	0.00021
Heptachlor epoxide	1024-57-3	NCNS	NCNS	NCNS	NCNS	0.0001	0.0001
Hexachlorobenzene	118-74-1	NCNS	NCNS	NCNS	NCNS	0.00075	0.00077
Hexachlorobutadiene	87-68-3	NCNS	NCNS	NCNS	NCNS	0.44	50
Hexachlorocyclohexane (Lindane)	58-89-9	0.2	NCNS	NCNS	NCNS	NCNS	NCNS
Hexachlorocyclopentadiene	77-47-4	NCNS	NCNS	NCNS	NCNS	1.0	17000
Hexachloroethane	67-72-1	NCNS	NCNS	NCNS	NCNS	1.9	8.9
Indeno(1,2,3-cd)pyrene	193-39-5	NCNS	NCNS	NCNS	NCNS	0.0028	0.031
Isophorone	78-59-1	NCNS	NCNS	NCNS	NCNS	8.4	2600
Methyl bromide	74-83-9	NCNS	NCNS	NCNS	NCNS	48	4000
Methyl chloride	74-87-3	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS
Methylene chloride	75-09-2	NCNS	NCNS	NCNS	NCNS	4.7	1600
Methoxychlor	72-43-5	100	NCNS	NCNS	NCNS	NCNS	NCNS
Naphthalene	91-20-3	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS
Nitrobenzene	98-95-3	NCNS	NCNS	NCNS	NCNS	17	1900
4-Nitrophenol	100-02-7	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS
n-Nitrosodimethylamine	62-75-9	NCNS	NCNS	NCNS	NCNS	0.00069	8.1
n-Nitrosodiphenylamine	86-30-6	NCNS	NCNS	NCNS	NCNS	5	16
n-Nitrosodi-n-propylamine	621-64-7	NCNS	NCNS	NCNS	NCNS	0.005	1.4
Pentachlorophenol	87-86-5	NCNS	NCNS	NCNS	NCNS	0.28	8.2
Phenanthrene	85-01-8	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS
Phenol	108-95-2	NCNS	NCNS	NCNS	NCNS	21000	4600000
Polychlorinatedbiphenyls (PCBs)	1336-36-3	NCNS	NCNS	NCNS	NCNS	0.000044	0.000044
Pyrene	129-00-0	NCNS	NCNS	NCNS	NCNS	960	11000
2,3,7,8-Tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD)	1746-01-6	NCNS	NCNS	NCNS	NCNS	0.00000013	0.00000014
1,1,2,2-Tetrachloroethane	79-34-5	NCNS	NCNS	NCNS	NCNS	0.17	11
Tetrachloroethene	127-18-4	NCNS	NCNS	NCNS	NCNS	0.8	8.85
Toluene	108-88-3	NCNS	NCNS	NCNS	NCNS	1000	200000
Toxaphene	8001-35-2	5	NCNS	NCNS	NCNS	NCNS	NCNS
1,2,4-Trichlorobenzene	120-82-1	NCNS	NCNS	NCNS	NCNS	70	940
1,1,1-Trichloroethane	71-55-6	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS
1,1,2-Trichloroethane	79-00-5	NCNS	NCNS	NCNS	NCNS	0.6	42
Trichloroethene	79-01-6	NCNS	NCNS	NCNS	NCNS	2.7	81
2,4,6-Trichlorophenol	88-06-2	NCNS	NCNS	NCNS	NCNS	2.1	6.5
2-(2,4,5-Trichlorophenoxy) propionic acid (2,4,5-TCPA)	93-72-1	10	NCNS	NCNS	NCNS	NCNS	NCNS
Vinyl Chloride	75-01-4	NCNS	NCNS	NCNS	NCNS	2	525

**Table 206B.1 Aquatic, Wildlife, and Livestock Numeric Surface Water
Quality Standards for Bacteria and Physical Parameters**

Parameter	Cold Water Habitat	Warm Water Habitat	Ephemeral Warm Water Habitat
Fecal Coliform (single sample maximum, CFU)	NCNS	NCNS	NCNS
Fecal Coliform (geometric mean, CFU)	NCNS	NCNS	NCNS
Temperature, maximum (Celsius degrees)	20.0	32.2	32.2
pH (standard units)	6.6 - 8.8	6.5 - 9.0	6.5 - 9.0
Turbidity, maximum (NTU) (a)	10	50	50
Dissolved Oxygen, minimum (mg/l)	6.0	5.0	5.0

**Table 206B.2 Aquatic, Wildlife, and Livestock Numeric Surface Water Quality
Standards for Inorganics, Asbestos, and Radiological Constituents**

Parameter	CAS Number	Designated Uses						
		Cold Water Habitat Acute	Cold Water Habitat Chronic	Warm Water Habitat Acute	Warm Water Habitat Chronic	Ephemeral Warm Water Habitat Acute	Ephemeral Warm Water Habitat Chronic	Livestock and Wildlife Watering
Ammonia	7664-41-7	See Table 206B.3	NCNS	See Table 206B.4	NCNS	See Table 206B.4	NCNS	NCNS
Boron (ug/L)	7440-42-8	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS	5000 D
Chlorine (total residual, ug/L)	7782-50-5	11	5	11	5	11	5	11 (b)
Cyanide (ug/L)	57-12-5	22 T	5.2 T	41 T	9.7 T	41 T	9.7 T	5.2 T (b)
Nitrate (mg/L)		NCNS	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS
Sulfides (ug/L)	18496-25-8	100	NCNS	100	NCNS	100	NCNS	NCNS
Asbestos (fibers/L > 10 um)	1332-21-4	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS
Gross Alpha (pCi/L)		NCNS	NCNS	NCNS	NCNS	NCNS	NCNS	15
Radium 226 + 228 (pCi/L)		NCNS	NCNS	NCNS	NCNS	NCNS	NCNS	30
Tritium (pCi/L)	10028-17-8	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS	20000

Table 206B.3 Maximum **Total** Ammonia Concentration
 Acute Standard for Cold Water **Habitat**
 (Total Ammonia mg-N/liter (or mg NH₃-N/liter))

pH	Temperature in Degrees Celsius																							30 and above		pH
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	23				
6.5	29	28	28	27	27	27	27	26	26	26	25	25	25	25	25	24	24	24	24	24	24	16.6	11.8	6.5		
6.6	28	27	27	27	26	26	26	25	25	25	25	24	24	24	24	24	24	23	23	23	23	16.2	11.4	6.6		
6.7	27	27	26	26	26	25	25	25	24	24	24	24	23	23	23	23	23	23	23	22	22	15.6	11.1	6.7		
6.8	26	25	25	25	24	24	24	24	23	23	23	23	23	22	22	22	22	22	22	22	21	15	10.6	6.8		
6.9	25	24	24	24	23	23	23	22	22	22	22	22	21	21	21	21	21	21	21	21	20	14.3	10.1	6.9		
7.0	23	23	22	22	22	22	21	21	21	21	20	20	20	20	19.9	19.7	19.6	19.5	19.4	19.3	19.2	13.4	9.5	7.0		
7.1	22	21	21	21	20	20	19.9	19.6	19.5	19.3	19.1	18.9	18.8	18.6	18.5	18.4	18.3	18.2	18.1	18.0	17.9	12.5	8.9	7.1		
7.2	19.8	19.6	19.2	19.0	18.8	18.5	18.4	18.1	17.9	17.8	17.6	17.5	17.3	17.2	17.0	16.9	16.8	16.7	16.7	16.6	16.5	11.6	8.2	7.2		
7.3	18	17.8	17.5	17.3	17.1	16.9	16.7	16.5	16.3	16.2	16.0	15.9	15.8	15.6	15.5	15.4	15.3	15.2	15.2	15.1	15.0	10.6	7.5	7.3		
7.4	16.2	16.0	15.7	15.5	15.3	15.1	15.0	14.8	14.6	14.5	14.4	14.3	14.1	14.0	13.9	13.8	13.8	13.7	13.6	13.6	13.5	9.5	6.7	7.4		
7.5	14.3	14.1	13.9	13.7	13.6	13.4	13.3	13.1	13.0	12.8	12.7	12.6	12.5	12.4	12.4	12.3	12.2	12.1	12.1	12.1	12.0	8.4	6.0	7.5		
7.6	12.3	12.5	12.2	12.0	11.9	11.7	11.6	11.5	11.4	11.2	11.2	11.1	11.0	10.9	10.8	10.8	10.7	10.6	10.6	10.5	10.5	7.4	5.3	7.6		
7.7	10.8	10.7	10.5	10.4	10.3	10.1	10.0	9.9	9.8	9.7	9.6	9.6	9.5	9.5	9.3	9.3	9.2	9.2	9.2	9.1	9.1	6.4	4.6	7.7		
7.8	9.2	9.1	9.0	8.9	8.8	8.7	8.6	8.5	8.4	8.3	8.2	8.1	8.1	8.0	8.0	7.9	7.9	7.9	7.9	7.8	7.8	5.5	4.0	7.8		
7.9	7.8	7.8	7.6	7.5	7.4	7.3	7.2	7.1	7.1	7.0	7.0	6.9	6.9	6.8	6.8	6.7	6.7	6.7	6.7	6.6	6.6	4.7	3.4	7.9		
8.0	6.5	6.4	6.4	6.3	6.2	6.1	6.1	6.0	5.9	5.9	5.8	5.8	5.8	5.7	5.7	5.7	5.6	5.6	5.6	5.6	5.6	4.0	2.9	8.0		
a.1	5.2	5.1	5.1	5.0	4.9	4.9	4.8	4.8	4.8	4.7	4.7	4.6	4.6	4.6	4.6	4.5	4.5	4.9	4.5	4.5	4.5	3.2	2.3	8.1		
a.2	4.2	4.1	4.0	4.0	4.0	3.9	3.9	3.8	3.8	3.8	3.7	3.7	3.7	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	2.6	1.89	8.2		
8.3	3.3	3.3	3.2	3.2	3.1	3.1	3.1	3.1	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.1	1.55	8.3		
8.4	2.6	2.6	2.6	2.5	2.5	2.5	2.5	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.3	2.3	2.4	2.4	1.71	1.27	8.4		
8.5	2.1	2.1	2.1	2.0	2.0	2.0	1.98	1.96	1.95	1.94	1.93	1.92	1.91	1.90	1.90	1.90	1.90	1.90	1.90	1.91	1.92	1.41	1.05	8.5		
8.6	1.68	1.66	1.65	1.63	1.61	1.60	1.59	1.58	1.57	1.56	1.55	1.55	1.54	1.54	1.54	1.54	1.54	1.55	1.55	1.56	1.57	1.16	0.88	8.6		
8.7	1.35	1.33	1.32	1.31	1.30	1.29	1.28	1.27	1.26	1.26	1.25	1.25	1.25	1.25	1.25	1.25	1.26	1.26	1.27	1.28	1.29	0.96	0.74	8.7		
8.8	1.08	1.07	1.06	1.05	1.04	1.04	1.03	1.03	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.03	1.03	1.04	1.05	1.06	1.07	0.81	0.63	8.8		
8.9	0.87	0.86	0.86	0.85	0.84	0.84	0.84	0.83	0.83	0.83	0.83	0.83	0.84	0.84	0.84	0.85	0.85	0.86	0.87	0.88	0.89	0.69	0.55	8.9		
9.0	0.70	0.70	0.69	0.69	0.69	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.69	0.69	0.70	0.70	0.71	0.72	0.73	0.74	0.75	0.59	0.48	9.0		

- NOTES:
1. pH and temperature are field measurements taken at the same time and location as the water samples destined for the laboratory analysis of ammonia.
 2. If field measured pH and/or temperature values fall between the Habitat Acute Total Ammonia tabular values, round field measured values according to standard scientific rounding procedures to nearest tabular value to determine the ammonia standard.

**Table 206B.4 Maximum Total Ammonia Concentration
Acute Standard for Warm Water Habitat and Ephemeral Warm Water Habitat
(Total Ammonia mg-N/liter (or mg NH₃-N/liter))**

pH	Temperature in Degrees Celsius														
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14
29	28	28	27	27	27	27	26	26	26	25	25	25	24	24	24
28	27	27	27	27	26	26	26	25	25	24	24	24	23	23	23
27	27	26	26	26	26	25	25	24	24	24	24	23	23	23	23
26	25	25	25	25	24	24	24	24	23	23	23	23	22	22	22
25	24	24	24	23	23	23	23	23	22	22	22	22	21	21	21
24	23	23	23	23	23	23	23	23	22	22	22	22	21	21	21
23	22	22	22	22	22	22	22	22	21	21	21	21	20	20	20
22	21	21	21	21	21	21	21	21	20	20	20	20	19	19	19
21	20	20	20	20	20	20	20	20	19	19	19	19	18	18	18
20	19	19	19	19	19	19	19	19	18	18	18	18	17	17	17
19	18	18	18	18	18	18	18	18	17	17	17	17	16	16	16
18	17	17	17	17	17	17	17	17	16	16	16	16	15	15	15
17	16	16	16	16	16	16	16	16	15	15	15	15	14	14	14
16	15	15	15	15	15	15	15	15	14	14	14	14	13	13	13
15	14	14	14	14	14	14	14	14	13	13	13	13	12	12	12
14	13	13	13	13	13	13	13	13	12	12	12	12	11	11	11
13	12	12	12	12	12	12	12	12	11	11	11	11	10	10	10
12	11	11	11	11	11	11	11	11	10	10	10	10	9	9	9
11	10	10	10	10	10	10	10	10	9	9	9	9	8	8	8
10	9	9	9	9	9	9	9	9	8	8	8	8	7	7	7
9	8	8	8	8	8	8	8	8	7	7	7	7	6	6	6
8	7	7	7	7	7	7	7	7	6	6	6	6	5	5	5
7	6	6	6	6	6	6	6	6	5	5	5	5	4	4	4
6	5	5	5	5	5	5	5	5	4	4	4	4	3	3	3
5	4	4	4	4	4	4	4	4	3	3	3	3	2	2	2
4	3	3	3	3	3	3	3	3	2	2	2	2	1	1	1
3	2	2	2	2	2	2	2	2	1	1	1	1	0	0	0
2	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

NOTES: 1. pH and temperature are field measurements taken at the same time and location as the water samples destined for the laboratory analysis of ammonia.

2. If field measured pH and/or temperature values fall between the Habitat Acute Total Ammonia tabular values, round field measured values according to standard scientific rounding procedures to nearest tabular value to determine the ammonia standard.

Table 206B.4 (continued) Maximum Total Ammonia Concentration
Acute Standard for Warm Water Habitat and Ephemeral Warm Water Habitat
(Total Ammonia m-N/liter (or mg NH₃-N/liter))

pH	Temperature in Degrees Celsius															30 and above	pH
	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29		
6.5	24	24	24	24	24	24	24	24	24	24	23	22	20	19.1	17.8	16.6	6.5
6.6	24	24	23	23	23	23	23	23	23	23	23	21	20	18.5	17.3	16.1	6.6
6.7	23	23	23	23	22	22	22	22	22	22	22	21	19.2	17.9	16.7	15.61	6.7
6.8	22	22	22	22	22	21	21	21	21	21	21	20	18.4	17.2	16.1	15.0	6.8
6.9	21	21	21	21	21	20	20	20	20	20	20	18.8	17.5	16.4	15.3	14.3	6.9
7.0	20	20	20	19.4	19.3	19.2	19.2	19.1	19.1	19.0	19.0	17.7	16.5	15.4	14.4	13.4	7.0
7.1	18.4	18.3	18.2	18.1	18.0	17.9	17.9	17.8	17.8	17.7	17.7	16.5	15.4	14.4	13.4	12.6	7.1
7.2	16.9	16.8	16.7	16.7	16.6	16.5	16.5	16.4	16.4	16.4	16.4	15.2	14.2	13.3	12.4	11.6	7.2
7.3	15.4	15.3	15.2	15.2	15.1	15.0	15.0	14.9	14.9	14.9	14.9	13.9	12.9	12.0	11.3	10.6	7.3
7.4	13.8	13.8	13.7	13.6	13.6	13.5	13.5	13.5	13.4	13.4	13.4	12.5	11.6	10.9	10.2	9.5	7.4
7.5	12.3	12.2	12.2	12.1	12.1	12.0	12.0	12.0	11.9	11.9	11.9	11.1	10.4	9.7	9.1	8.5	7.5
7.6	10.8	10.7	10.6	10.6	10.5	10.5	10.5	10.4	10.4	10.4	10.5	9.8	9.1	8.5	8.0	7.4	7.6
7.7	9.3	9.2	9.2	9.2	9.1	9.1	9.1	9.1	9.1	9.1	9.1	8.5	7.9	7.4	6.9	6.5	7.1
7.8	8.0	7.9	7.9	7.9	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.3	6.8	6.4	6.0	5.6	7.8
7.9	6.7	6.7	6.7	6.7	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.2	5.8	5.4	5.1	4.8	7.9
8.0	5.7	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.2	4.9	4.6	4.3	4.0	8.0
8.1	4.5	4.5	4.9	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.2	4.0	3.7	3.5	3.3	8.1
8.2	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.7	3.4	3.2	3.0	2.8	2.7	8.2
8.3	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	3.0	2.8	2.6	2.5	2.3	2.2	8.3
8.4	2.4	2.3	2.3	2.3	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.1	2.0	1.90	1.80	8.4
8.5	1.90	1.90	1.90	1.90	1.91	1.92	1.92	1.93	1.95	1.96	1.99	1.86	1.77	1.66	1.57	1.49	8.5
8.6	1.54	1.54	1.55	1.55	1.56	1.57	1.58	1.58	1.60	1.62	1.63	1.55	1.46	1.38	1.31	1.24	8.6
8.7	1.25	1.26	1.26	1.27	1.28	1.29	1.30	1.31	1.33	1.34	1.36	1.29	1.22	1.16	1.10	1.05	8.7
8.8	1.03	1.03	1.04	1.05	1.06	1.07	1.08	1.09	1.11	1.12	1.14	1.09	1.03	0.98	0.94	0.90	8.8
8.9	0.85	0.85	0.86	0.87	0.88	0.89	0.91	0.92	0.93	0.95	0.97	0.93	0.88	0.84	0.81	0.777	8.9
9.0	0.70	0.71	0.72	0.73	0.74	0.75	0.77	0.78	0.80	0.81	0.83	0.80	0.76	0.73	0.70	0.688	9.0

NOTES:

1. pH and temperature are field measurements taken at the same time and location as the water samples destined for the laboratory analysis of ammonia.
2. If field measured pH and/or temperature values fall between the Habitat Acute Total Ammonia tabular values, round field measured values according to standard scientific rounding procedures to nearest tabular value to determine the ammonia standard.

Table 206B.5 Aquatic, Wildlife and Livestock Numeric
Surface Water Quality Standards for Metals.

Parameter	CAS Number	Designated Uses						Livestock and Wildlife Watering (ug/L)
		Cold Water Habitat Acute (ug/L)	Cold Water Habitat Chronic (ug/L)	Warm Water Habitat Acute (ug/L)	Warm Water Habitat Chronic (ug/L)	Ephemeral Warm Water Habitat Acute (ug/L)	Ephemeral Warm Water Habitat Chronic (ug/L)	
Aluminum (Al)	7429-90-5	750 D	87 D	750 D	87 D	750 D	87 D	5000 D
Antimony (Sb)	7440-36-0	88 D	30 D	88 D	30 D	88 D	30 D	NCNS
Arsenic (As)	7440-38-2	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS	200 D
Arsenic III (As III)	7440-38-2	360 D	190 D	360 D	190 D	360 D	190 D	NCNS
Barium (Ba)	7440-39-3	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS
Beryllium (Be)	7440-41-7	65 D	5.3 D	65 D	5.3 D	65 D	5.3 D	NCNS
Cadmium (Cd)	7440-43-9	(c) D	(c) D	(c) D	(c) D	(c) D	(c) D	50 D
Chromium (Cr III + Cr VI)	7440-47-3	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS	1000 D
Chromium III (Cr III)	16065-83-1	(d) D	(d) D	(d) D	(d) D	(d) D	(d) D	NCNS
Chromium VI (Cr VI)	18540-29-9	16 D	11 D	16 D	11 D	16 D	11 D	NCNS
Cobalt (Co)	7440-48-4	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS	1000 D
Copper (Cu)	7440-50-8	(e) D	(e) D	(e) D	(e) D	(e) D	(e) D	500 D
Lead (Pb)	7439-97-1	(f) D	(f) D	(f) D	(f) D	(f) D	(f) D	100 D
Mercury (Hg)	7439-97-6	2.4 T	0.012 T	2.4 T	0.012 T	2.4 T	0.012 T	10 T / 0.012 T (b)
Molybdenum (Mo)	7439-98-7	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS
Nickel (Ni)	7440-02-0	(g) D	(g) D	(g) D	(g) D	(g) D	(g) D	NCNS
Selenium (Se)	7782-49-2	20 T	2 T	20 T	2 T	20 T	2 T	50 D / 2 T (b)
Selenium (in presence of >500 mg/l sulfate)	7782-49-2	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS
Silver (Ag)	7440-22-4	(h) D	NCNS	(h) D	NCNS	(h) D	NCNS	NCNS
Thallium (Tl)	7440-28-0	700 D	150 D	700 D	150 D	700 D	150 D	NCNS
Uranium (Ur)	7440-61-1	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS
Vanadium (V)	7440-62-2	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS	100 D
Zinc (Zn)	7440-66-6	(i) D	(i) D	(i) D	(i) D	(i) D	(i) D	25000 D

Table 206B.6 Aquatic, Wildlife, and Livestock Numeric Surface Water Quality Standards for Organic Compounds.

Designated Uses

Parameter	CAS Number	Designated Uses					
		Cold Water Habitat Acute (ug/L)	Cold Water Habitat Chronic (ug/L)	Warm Water Habitat Acute (ug/L)	Warm Water Habitat Chronic (ug/L)	Warm Water Habitat Acute (ug/L)	Warm Water Habitat Chronic (ug/L)
Acenaphthene	83-32-9	850	550	850	550	850	550
Acrolein	107-02-8	34	30	34	30	34	30
Acrylonitrile	107-13-1	3800	250	3800	250	3800	250
Aldrin	309-00-2	2.0	NCNS	2.0	NCNS	2.0	NCNS
Anthracene	120-12-7	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS
alpha-BHC	319-84-6	1600	130	1600	130	1600	130
beta-BHC	319-85-7	1600	130	1600	130	1600	130
delta-BHC	319-86-8	1600	130	1600	130	1600	130
gamma-BHC (Lindane)	58-89-9	2.0	0.08	2.0	0.28	2.0	0.28
Benzene	71-43-2	2700	180	2700	180	2700	180
Benzidine	92-87-5	1300	89	1300	89	1300	89
Benzo(a)anthracene	56-55-3	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS
Benzo(a)pyrene	50-32-8	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS
Benzo(b)fluoranthene	205-99-2	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS
Benzo(k)fluoranthene	207-08-9	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS
Bis(2-chloroethyl)ether	111-44-4	120000	6700	120000	6700	120000	6700
Bis(2-chloroisopropyl)ether	108-60-1	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS
Bis(2-ethylhexyl)phthalate	117-81-7	400	360	400	360	400	360
Bromoform	75-25-2	15000	10000	15000	10000	15000	10000
4-Bromophenyl phenyl ether	101-55-3	180	14	180	14	180	14
Butyl benzyl phthalate	85-68-7	1700	130	1700	130	1700	130
Carbon tetrachloride	56-23-5	18000	1100	18000	1100	18000	1100
Chlorane	57-74-9	2.4	0.004	2.4	0.21	2.4	0.21
Chlorobenzene	108-90-7	9800	620	9800	620	9800	620
Chlorodibromomethane	124-48-1	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS
2-Chloroethyl vinyl ether	110-75-8	180000	9800	180000	9800	180000	9800
Chloroform	67-66-3	14000	900	14000	900	14000	900
2-Chloronaphthalene	91-58-7	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS
2-Chlorophenol	95-57-8	2200	150	2200	150	2200	150
3-methyl 4-Chlorophenol	59-50-1	15	4.7	15	4.7	15	4.7

Table 206B.6 (continued) Aquatic, Wildlife, and Livestock Numeric Surface
Water Quality Standards for Organic Compounds.

Parameter	CAS Number	Designated Uses						
		Cold Water	Cold Water	Warm Water	Warm Water	Ephemeral	Ephemeral	Livestock and
		Habitat	Habitat	Habitat	Habitat	Warm Water	Warm Water	Wildlife
		Acute	Chronic	Acute	Chronic	Habitat	Habitat	Watering
		(ug/L)	(ug/L)	(ug/L)	(ug/L)	Acute (ug/L)	Chronic (ug/L)	(ug/L)
Chrysene	218-01-9	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS
Dibenzo(a,h)anthracene	53-70-3	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS
p,p'-DDD (p,p'-Dichlorodiphenyldichloroethane)	72-54-8	1.1	0.001	1.1	0.02	1.1	0.02	NCNS
p,p'-DDE (p,p'-Dichlorodiphenyldichloroethene)	72-55-9	1.1	0.001	1.1	0.02	1.1	0.02	NCNS
p,p'-DDT (p,p'-Dichlorodiphenyltrichloroethane)	50-29-3	1.1	0.001	1.1	0.02	1.1	0.02	NCNS
1,2-Dichlorobenzene	95-50-1	790	300	1200	470	1200	470	NCNS
1,3-Dichlorobenzene	541-73-1	2500	970	2500	970	2500	970	NCNS
1,4-Dichlorobenzene	106-46-1	560	210	2000	780	2000	780	NCNS
3,3'-Dichlorobenzidene	91-94-1	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS
Dichlorobromomethane	75-27-4	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS
1,2-Dichloroethane	107-06-2	59000	41000	59000	41000	59000	41000	NCNS
1,1-Dichloroethene	75-35-4	15000	950	15000	950	15000	950	NCNS
1,2-trans-Dichloroethene	156-60-5	68000	3900	68000	3900	68000	3900	NCNS
2,4-Dichlorophenol	120-83-2	1000	88	1000	88	1000	88	NCNS
2,4-Dichlorophenoxyacetic acid (2,4-D)	94-75-7	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS
1,2-Dichloropropane	78-87-5	26000	9200	26000	9200	26000	9200	NCNS
1,3-Dichloropropene	542-75-6	3000	1100	3000	1100	3000	1100	NCNS
Dieldrin	60-57-1	2.5	0.002	2.5	0.002	2.5	0.002	NCNS
Dibutyl phthalate	84-74-2	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS
Diethyl phthalate	84-66-2	26000	1600	26000	1600	26000	1600	NCNS
Dimethyl phthalate	131-11-3	17000	1000	17000	1000	17000	1000	NCNS
2,4-Dimethyl phenol	105-67-9	1000	310	1000	310	1000	310	NCNS
2,4-Dinitrophenol	51-28-5	110	9.2	110	9.2	110	9.2	NCNS
2-methyl-4,6-Dinitrophenol	534-52-1	310	24	310	24	310	24	NCNS
2,4-Dinitrotoluene	606-20-2	15000	970	15000	970	15000	970	NCNS
1,2-Diphenylhydrazine	122-66-7	130	11	130	11	130	11	NCNS
Di-butyl phthalate	84-74-2	470	35	470	35	470	35	NCNS

Water Quality Standards for Organic Compounds.

Designated Uses

[illegible]

Table 206B.6 (continued) Aquatic, Wildlife, and Livestock Numeric Surface Water Quality Standards for Organic Compounds.

Parameter	CAS Number	Designated Uses									
		Cold Water		Warm Water		Ephemeral Warm Water		Ephemeral Warm Water		Livestock and Wildlife	
		Habitat Acute (ug/L)	Habitat Chronic (ug/L)	Habitat Acute (ug/L)	Habitat Chronic (ug/L)	Habitat Acute (ug/L)	Habitat Chronic (ug/L)	Habitat Acute (ug/L)	Habitat Chronic (ug/L)	Watering	Watering
Pentachlorophenol	87-86-5	(j)	(j)	(j)	(j)	(j)	(j)	(j)	(j)	NCNS	NCNS
Phenanthrene	85-01-8	30	6.3	30	6.3	30	6.3	30	6.3	NCNS	NCNS
Phenol	108-95-2	5100	730	7000	1000	7000	1000	7000	1000	NCNS	NCNS
Polychlorinated biphenyls (PCBs)	1336-36-3	2.0	0.01	2.0	0.02	2.0	0.02	2.0	0.02	NCNS	NCNS
Pyrene	129-00-0	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS
2,3,7,8-Tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD)	1746-01-6	0.01	0.005	0.01	0.005	0.01	0.005	0.01	0.005	NCNS	NCNS
1,1,2,2-Tetrachloroethane	79-34-5	4700	3200	4700	3200	4700	3200	4700	3200	NCNS	NCNS
Tetrachloroethene	127-18-4	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS
Toluene	108-88-3	8700	180	8700	180	8700	180	8700	180	NCNS	NCNS
Toxaphene	8001-35-2	0.73	0.0002	0.73	0.02	0.73	0.02	0.73	0.02	NCNS	NCNS
1,2,4-Trichlorobenzene	120-82-1	750	130	1700	300	1700	300	1700	300	NCNS	NCNS
1,1,1-Trichloroethane	71-55-6	2600	1600	2600	1600	2600	1600	2600	1600	NCNS	NCNS
1,1,2-Trichloroethane	79-00-5	18000	12000	18000	12000	18000	12000	18000	12000	NCNS	NCNS
Trichloroethene	79-01-6	20000	1300	20000	1300	20000	1300	20000	1300	NCNS	NCNS
2,4,6-Trichlorophenol	88-06-2	160	25	160	25	160	25	160	25	NCNS	NCNS
2-(2,4,5-Trichlorophenoxy) propionic acid (2,4,5-TP)	93-72-1	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS
Vinyl Chloride	75-01-4	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS

Footnotes to the Numeric Surface Water Quality Standards

- a -** In waters where background turbidity exceeds these values wholly due to natural causes, turbidity **from** discharges shall be **restricted** to not exceed ambient levels. Numeric turbidity standards apply only to ambient (non-flood stage) stream flow conditions and do not pertain to the elevated turbidity levels that may be expected during, and for several days **after**, a runoff producing flood event.
- b -** In the event both wildlife and livestock are using the same body of water for ingestion, the more stringent value (lower chemical concentration) is the water quality standard. If it can be demonstrated that only livestock are using the water body for ingestion, **then** the less stringent value (**higher** chemical concentration) is the water quality standard.
- e -** Cadmium
 acute: $e^{(1.1280 [\ln (\text{hardness})] - 3.828)}$ chronic: $e^{(0.7852 [\ln (\text{hardness})] - 3.490)}$
- d -** Chromium III
 acute: $e^{(0.8190 [\ln (\text{hardness})] + 3.688)}$ chronic: $e^{(0.8190 [\ln (\text{hardness})] + 1.561)}$
- e -** Copper
 acute: $e^{(0.9422 [\ln (\text{hardness})] - 1.464)}$ chronic: $e^{(0.8545 [\ln (\text{hardness})] - 1.465)}$
- f -** Lead
 acute: $e^{(1.2730 [\ln (\text{hardness})] - 1.460)}$ chronic: $e^{(1.2730 [\ln (\text{hardness})] - 4.705)}$
- g -** Nickel
 acute: $e^{(0.8460 [\ln (\text{hardness})] + 3.3612)}$ chronic: $e^{(0.8460 [\ln (\text{hardness})] + 1.1645)}$
- h -** Silver
 acute: $e^{(1.72 [\ln (\text{hardness})] - 6.52)}$ chronic: NCNS
- i -** Zinc
 acute: $e^{(0.8473 [\ln (\text{hardness})] + 0.8604)}$ chronic: $e^{(0.8473 [\ln (\text{hardness})] + 0.7614)}$
- i -** Pentachlorophenol
 acute: $e^{(1.005 [\text{pH}-4.830])}$ chronic: $e^{(1.005 [\text{pH}-5.280])}$
- Hardness, expressed as **mg/L** calcium carbonate, is inserted into the equation where it says "hardness". Hardness is determined according to the following criteria:
 - a. If the water body has a Cold Water, Warm Water, or Ephemeral **Warm** Water Habitat designated use, then hardness is based on the hardness of the water body **from** a sample taken at the same time that the sample for the metal is taken, except that the hardness may not exceed 400 **mg/L** calcium carbonate.
 - The **pH** is inserted into the equation where it says "**pH**". **pH** is determined **according** to the following criteria:
 - a. If the water body has a Cold Water, Warm Water, or Ephemeral Warm **Water** Habitat designated use, then the **pH** is based on the **pH** of either the effluent (for a point source discharge) or the water body **from** a sample **taken** at the same time that the sample for **pentachlorophenol** is taken.

Abbreviations

NCNS ▪ No Current Numeric Standard

D ▪ Dissolved

T ▪ Total Concentration

CAS Number ▪ Chemical Abstracts Service (CAS) **Registry** Numbers are unique numerical identifiers assigned to chemical substances recorded in the CAS Chemical **Registry** System.